AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	
ANIENDINE VI OF BOLICE		TOTAL CONTRACT	J		1 3
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.			NO.(If applicable)
0003	11-May-2003	W22W9K-3078-7550		<u> </u>	
6. ISSUED BY CODE USA ENGINEER DISTRICT, LOUISVILLE ATTN: CELRL-CT 600 DR. MARTIN LUTHER KING PLACE ROOM 821 LOUISVILLE KY 40202	DACA27	7. ADMINISTERED BY (If other than item 6) MILITARY/RESERVE TEAM 600 DR. M. L. KING, JR. PL., RM 821 ATTN: TOM E. DICKERT LOUISVILLE KY 40202-2230	DE DACA	A27	
8. NAME AND ADDRESS OF CONTRACTOR	(No., Street, County, St	rate and Zip Code)	X 9A. AMENDMI	ENT OF SOL	ICITATION NO.
The state of the s			DACA21-03-R-0013		
			X 9B. DATED (SI 07-Apr-2003	EE HEM II)	
		10A. MOD. OF	10A. MOD. OF CONTRACT/ORDER NO.		
		•	10B. DATED (SEE ITEM 1	3)
CODE	FACILITY CO	DE	(LL IIDM I.	-,
		APPLIES TO AMENDMENTS OF SOLICI	TATIONS		
X The above numbered solicitation is amended as set forth	in Item 14. The hour and da	te specified for receipt of Offer	is extended,	x is not exten	ded.
or (c) By separate letter or telegram which includes a re RECEIVED AT THE PLACE DESIGNATED FOR TH REJECTION OF YOUR OFFER. If by virtue of this ar provided each telegram or letter makes reference to the 12. ACCOUNTING AND APPROPRIATION DA	E RECEIPT OF OFFERS PE nendment you desire to chang solicitation and this amendme	RIOR TO THE HOUR AND DATE SPECIFIED MAY ge an offer already submitted, such change may be mad	RESULT IN le by telegram or letter,		
		TO MODIFICATIONS OF CONTRACTS/O ACT/ORDER NO. AS DESCRIBED IN ITE			
A. THIS CHANGE ORDER IS ISSUED PURS CONTRACT ORDER NO. IN ITEM 10A.	SUANT TO: (Specify at	uthority) THE CHANGES SET FORTH IN	TEM 14 ARE MAD	E IN THE	
B. THE ABOVE NUMBERED CONTRACT/O office, appropriation date, etc.) SET FORTH		TO REFLECT THE ADMINISTRATIVE C ANT TO THE AUTHORITY OF FAR 43.10		hanges in pay	ring
C. THIS SUPPLEMENTAL AGREEMENT IS	ENTERED INTO PUR	SUANT TO AUTHORITY OF:			
D. OTHER (Specify type of modification and a	uthority)				
E. IMPORTANT: Contractor is not,	is required to si	gn this document and return	copies to the issuing	office.	
14. DESCRIPTION OF AMENDMENT/MODIFI where feasible.) Solicitation DACA27-03-R-0013, Construction	, ,				ws:
SEE ATTACHED SUMMARY OF CHANGES	3				
Except as provided herein, all terms and conditions of the doc	cument referenced in Item 9A	or 10A, as heretofore changed, remains unchanged an	d in full force and effect.		
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CON'		ER (Type or p	orint)
		TEL:	EMAIL:		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNE			160	C. DATE SIGNEI
	S. B. II E SIGNE				
(Signature of person authorized to sign)	_	(Signature of Contracting Office	eer)	—— ¹	2-May-2003

EXCEPTION TO SF 30 APPROVED BY OIRM 11-84 STANDARD FORM 30 (Rev. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

AMDT 0003

- 1. The Minutes and Sign-in Sheets from the 29 April 2003 Pre-Proposal Conference are attached.
- Section 00100, LCL 0228-006, "Performance and Payment Bonds Supplemental" and Section 00700, FAR 52.228-15, "Performance and Payment Bonds – Construction", requirements are not changed.
- 3. Section 00800, Paragraph 1.16, The sentence "The Contractor shall perform on the site, and with its own organization, work equivalent to at least 15 percent of the total amount of the work to be performed under the contract" is changed to read "The Contractor shall perform on the site, and with its own organization, work equivalent to at least 15 percent of the total amount of the construction work to be performed under the contract".
- GSA Schedules and permission to purchase from the GSA Schedules will be made available after award of this construction contract.
- 5. Permits Note the following permit information:
 - a) Driveway permit from NHDOT was approved. It is valid through 28 October 2003. It will be renewed by the Louisville District, COE.
 - b) Site specific permit (NPDES, erosion control during/after construction) was approved by New Hampshire Department of Environmental Services. This permit is valid until 7 November 2004. New Hampshire is one of 5 states that are not delegated by the EPA to issue stormwater permits. That being the case, the COE will issue a NOI to the EPA, and sign the document which states that we are complying with the federal general permit. The Corps of Engineers will do that shortly before/after award. Louisville District, COE will be the lead on this permit. If construction lasts beyond 7 Nov 2004, the Corps of Engineers will request an extension.
 - c) Trench permit. Contractor will be responsible for applying to NHDOT for trenching permit to construct sanitary sewer line beneath state road, Route 108.
 - d) Sanitary sewer permit. Contractor will be responsible for applying for permit to extend and connect to City of Somersworth sanitary sewers.

Any other permits are the responsibility of the Contractor.

- 6. Specification Section 08950, Insulated Translucent Fiberglass Sandwich Panel Wall/Roof System, is hereby deleted and replaced in its entirety.
- 7. Drawing ALB03, Landscape Schedule and Details, is hereby deleted and relaced in its entirety.
- 8. Note: All excavation for the base bid is unclassified. If a Modification to the existing plans & specifications is issued after award requiring additional rock removal, the price quoted for Item No. 7, Rock Clause, of the bid schedule will be used for payment.

(End of Summary of Changes)

ROCHESTER, NH USARC

U.S. ARMY CORPS OF ENGINEERS LOUISVILLE DISTRICT

PRE-PROPOSAL MEETING MINUTES WITH CONSTRUCTION CONTRACTORS

PLACE: 125 Cottage Street

Portsmouth, NH

DATE: 29 April 2003, 1:00 p.m.

PANEL:

Joe Gates
USACE, Louisville District
Chairperson, Project Manager

Tom Dickert
USACE, Louisville District
Contracting

Howard Hall
USACE, Louisville District
Architect

Major Linda Hallman 94th RSC, Plans Officer

Lt. Col. Jay Stephens 94th RSC, Chief of Plans

Steve Chase New England USACE Project Construction Engineer

JIM CONWAY

USACE, New England District

Construction Resident Engineer

- 1 MR. GATES: My name is Joe Gates. I'm the
- 2 Project Manager. I want to welcome you all here to
- 3 Portsmouth, New Hampshire for the pre-proposal
- 4 conference for the USARC center located in the Rochester
- 5 area. We are going to have a group of panel members up
- 6 here. We are going to record -- we have
- 7 a court stenographer here to record the comments, the
- 8 questions and answers. And then we are going to
- 9 issue an amendment to include the minutes of this meeting.
- 10 It was not a requirement that you attend this meeting to be able
- 11 to bid.
- 12 I would like to introduce our group here.
- We have representatives from the Louisville District Corps of Engineers - the design and program managing agent for the
- 14 Army Reserve.
- 15 Howard Hall is the Architect. Tom
- 16 Dickert next to him on the right is a Contract
- 17 Specialist out of Louisville. We did the design. We are going to
- 18 hand the contract off after
- 19 award to the New England District, Corps of Engineers.
- 20 Sitting to my right here is Jim Conway, who
- 21 is the Resident Engineer up here; and then the
- 22 Project Engineer, Steve Chase.

- 1 Representing the user community we
- 2 have Major Linda Hallman, and Lieutenant Colonel Jay
- 3 Stephens.
- 4 Hopefully have the bodies here to be
- 5 able to answer questions about design, the
- 6 operations, as well as the construction.
- 7 Everybody, I believe, signed in. So that
- 8 was good.
- 9 The intention of this is basically to focus
- 10 on your needs and any questions that you may have.
- 11 We don't have a formal presentation that we are going
- 12 to make on the design or the O&M portion the pilot
- 13 program that we are going to talk about in a little
- 14 bit.
- But we are going to give some
- 16 highlights. And if you have some questions and
- 17 issues, please will bring those up. When you raise them,
- 18 we will ask you to state your name and the company
- 19 you work for for the record. And then one of us will
- 20 reply with the answer if we know it.
- 21 If there are some answers that we think
- 23 we will need to go back and research, we will tell you that.
- 24 We will issue

- 1 an amendment, and you will see the amendment and the
- 2 correct answer.
- This is a fiscal year FYO2 project. Like I
- 4 said, it's an Army Reserve Center. For those of who
- 5 you don't know, an Army Reserve Center is to me just
- 6 like a school building, a high school or a grade
- 7 school, for that matter, where you have classrooms,
- 8 administration, assembly. You have a kitchen,
- 9 storage. High schools don't normally have a vehicle
- 10 maintenance shop.
- 11 This complex is three buildings: The
- 12 training center, the OMS vehicle maintenance shop,
- 13 which is going to sit behind the building, and then
- 14 we have an unheated storage building.
- We have a rendering in the back projected
- 16 on the screen. That is of the training center itself
- 17 as seen from the highway. We will leave that
- 18 up for later.
- 19 The training center itself is approximately
- 20 a 44,000 square-foot facility. The vehicle
- 21 maintenance shop is 7,000 square foot. I believe
- 22 it's a four bay drive through set up. And then the
- 23 unheated storage facility, which is a pre-engineered
- 24 type of building, is approximately 2000 square feet.

- 1 It is located on Route 187.
- 2 The name of the project is a little
- 3 misleading. We call it the Rochester Reserve Center,
- 4 but in actuality it is in Somersworth, New Hampshire.
- 5 The intention of the Army Reserve was to
- 6 consolidate the units that are in the Portsmouth area
- 7 as well as Rochester. Somehow it took the name of
- 8 Rochester. But we put it right in the middle
- 9 because that is where the search, the land search,
- 10 turned up property.
- 11 The site is wooded.
- 12 It's hard to describe the
- 13 shape. It's a regular shaped piece of property, long
- 14 and narrow. The project, as you may know, is a hard
- 15 metric design, which I don't know how many of you are
- 16 familiar with. That is a consideration that we
- 17 are looking at here.
- The intention also is that we partner this
- 19 project during construction, meaning after
- 20 construction award, the government and the
- 21 contractors will put together a very friendly
- 22 environment and we will work together in terms of
- 23 give and take issues, or whatever, trying to work
- 24 stuff out.

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1 A number of you probably have
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- 2 had involvement in partnering projects in the
- 3 past. We have found it to be an exceptional way of
- 4 everybody getting to know each other and raising the
- 5 level of trust and comfort with each other.
- And so we think it's very important for
- 7 this project, especially with the O&M portion, which
- 8 is the five-year pilot project that we are going to
- 9 tie to the end of this project. That is what I want
- 10 to talk about next.
- 11 This project is the first Army Reserve
- 12 project that has been designated for a DOD initiative
- 13 across the board where they are looking at a sample
- 14 project or sample method of maintaining the buildings
- 15 after construction completion.
- And the thrust of it, I believe, when I
- 17 read the language, is that the present situation with
- 18 Department of Defense buildings after construction
- 19 completion is that the money and the
- 20 ability of some of the people maintaining
- 21 is not where it should be for a new
- 22 facility.
- 23 So we want to see if the life cycle of the

- 1 building can be extended and have a more quality
- 2 facility at the end of a period if we have the
- 3 construction contractor
- 4 selecting his equipment and
- 5 overseeing the installation and craftmanship, how he
- 6 would approach that knowing that he is going to be
- 7 responsible for maintaining the facility for a
- 8 five-year period.
- 9 This is a new program for us. We were
- 10 looking at this back in, I guess it was August or
- 11 July of last year when we first got involved in this.
- 12 And our perception of evolved basically from
- 13 what we were doing in other districts and other
- 14 projects.
- There was only one other Department of Defense
- 16 project in the country that had
- 17 a pilot project. We kind of grew from that to get to
- 18 where we are at today.
- 19 We are not saying that it is the premier
- 20 O&M spec. We think there is a lot of room for
- 21 improvement. And the basis for why we are doing this
- 22 partnering session is as we progress through the
- 23 maintenance portion and we build up to it, we work
- 24 together looking at the spec and making sure

- 1 we meet the spirit and the letter in most cases
- 2 about what the government is trying to get for its
- 3 buck there.
- 4 And then we have certain periods during the
- 5 construction, or during the five-year period and at
- 6 the conclusion of that five-year period where we have
- 7 to report back to Congress what the cost and
- 8 benefits are and how you may want to change it or
- 9 alter it. And working with you jointly, we would see
- 10 how that spec would be changed for future projects.
- 11 Right now I think there is a total of about
- 12 6 or 8 projects that are on-going as a pilot study
- 13 across the Department of Defense agencies.
- 14 Basically, the O&M portion is what I want
- 15 to really focus on. Probably that is what most of
- 16 your questions may be. But I am not going to really
- 17 get into going through the specs. I will point a few
- 18 highlights of it.
- 19 It's basically understanding how we are
- 20 going to, like I said earlier, contract out and
- 21 complete those facilities that you are going to
- 22 maintain.
- 23 We describe in the O&M Spec preventative
- 24 maintenance. We describe continuous commission,

- 1 which is, to me, just a glorified word for
- 2 making the project, making the facility run and
- 3 operate as most efficient as possible and as designed
- 4 over a five-year period. When the next
- 5 person that steps in to maintain the facility, it is
- 6 almost as if it's a new facility and all the bugs and
- 7 defects have been worked out prior to that.
- 8 In addition to that we talk about
- 9 unscheduled maintenance. These are things that
- 10 typically would come up that are not janitorial type
- 11 applications that we would ask you to be responsible
- 12 for.
- 13 And when you put your proposal together it
- 14 is going to be your responsibility to understand how
- 15 the facility is going to operate, who uses it, how
- 16 they use it, and to determine the risk that you are going
- 17 to feel acceptable for the
- 18 project. You will then come back with a fixed price cost.
- 19 And I don't know if any of you contractors
- 20 have ever done this before. I know we certainly have
- 21 not. And this is going to be an eye opening
- 22 experience for at least seven of us here on how the
- 23 proposals come in.
- 24 Like I said, we are looking for a fixed

- 1 cost approach on this. So that's going to tell you
- 2 something about, I guess the level of risk that you
- 3 think is appropriate.
- 4 At this point, I guess I would like to turn
- 5 it over to Tom Dickert.
- 6 MR. DICKERT: I'm Tom Dickert. I work in
- 7 the Louisville District Office in contracting.
- 8 I am the person the proposals are going to come
- 9 into. Also, I will chair the evaluation board when
- 10 we meet.
- I oversee the proposals from you. As you
- 12 are aware, this is not a bid job. We are
- 13 expecting some technical and business information
- 14 from you in the form of a proposal.
- 15 Section 00115 in the solicitation defines
- 16 procedures for submittal of offers. It explains
- 17 everything that we are going to evaluate and the
- 18 information we expect to get from you. Section
- 19 00130, Proposal Evaluation Criteria, explains how we
- 20 are going to evaluate that information.
- Just a couple of important points, you
- 22 should not assume there will be an opportunity for proposal
- 23 revisions -- your first run through on the
- 24 proposal should be your best effort towards getting
- 25 the information together and addressing all the

- 1 factors that are listed in those two specific
- 2 sections.
- 3 You can't assume that discussions are going
- 4 to take place. They very well may not. If we have a
- 5 proposal that at least meets the minimum requirements of
- 6 the solicitation and if we find the price is
- 7 reasonable, we could very well award without opening
- 8 discussions.
- 9 So just keep in mind there may not be an
- 10 opportunity to revise anything in your proposal. If
- 11 we come to a point where we will have to
- 12 open discussions, you will have opportunity to
- 13 address weaknesses or whatever information is
- 14 lacking, but that should not be an assumption on your
- 15 part.
- 16 Keeping that in mind, you
- 17 should never have a "To Be Determined" statement of any
- 18 kind in any of the proposal sections including key subcontractor
- 19 information.
- 20 As an example, if you haven't been able to get
- 21 with the electrical sub, don't put "To Be
- 22 Determined" in the proposal and submit the proposal
- 23 that way. That is not acceptable to us. If
- 24 discussions are not open, it's a deficiency. And it

- 1 may be a reason why you were not selected for the
- 2 job.
- 3 References are important. We have asked for
- 4 past performance information on primes and subs.
- 5 Make sure that the information and phone
- 6 numbers are current, because it's something that we
- 7 intend to check when we evaluate the proposals and
- 8 contact references.
- 9 Business literature -- we don't want to see
- 10 business literature included in the proposals no pamphlets or
- 11 brochures of any kind with the proposal, unless it's
- 12 in some way a reference to some factor that we are
- 13 asking for information on. It is just something we
- 14 don't want to see.
- We want to see the minimum -- we would like
- 16 to see the minimum effort put forth on your part to
- 17 put the proposal together, but we want to make sure
- 18 you have every factor, every bit of information that
- 19 we list addressed in the proposals.
- 20 Price is not evaluated. We look at it for
- 21 reasonableness. But it's important to note that
- 22 price is equally as important as all the other
- 23 factors combined. It has the same weight and value
- 24 as all of those tabbed information sections in the

- 1 proposal. The technical proposal and the price
- 2 proposal are of equal importance to us.
- I had a question about Section 00800.
- 4 It was concerning Performance of Work by the Contractor.
- 5 Section 00800 requires the Prime Contractor to perform
- 6 15 percent with his own organization.
- 7 Actually, it is Section 00800 Paragraph 1.16,
- 8 Performance of Work by the Contractor.
- 9 This is an unusual contract in that it has
- 10 the O&M part of it. It's a five-year effort for
- 11 maintenance of the building. The amendment
- 12 is going to include the minutes of this meeting. I want
- 13 going to clarify the 15% requirement a little bit.
- 14 The 15 percent does not include the O&M
- 15 part of the contract. The 15 percent is the labor
- 16 percentage that is applicable to the construction
- 17 part of the contract only. SEE AMENDMENT 0003.
- 18 There was also a question about the period of
- 19 performance. Section 00800 had 630 days and Standard Form 1442
- 20 had 2,455 days. That 2,455 days is addressing
- 21 the entire performance period for the contract and
- 22 also includes the five years of operation and
- 24 maintenance. So it would be the 630 for construction plus
- 24 five years.

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1 Like Joe said, the meeting minutes will
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- 2 be part of Amendment 0003 so that everyone can see
- 3 answers to questions that have been answered here and
- 4 the amendment will be posted on our web-site. If you have
- 5 registered for plans and specs, you will be notified by Email
- 6 when the amendment is available for download from the website.
- 7 MR. GATES: Just before we start questions
- 8 and answers, I just want to mention -- the proposals
- 9 are due on what date?
- MR. DICKERT: The 22nd of May 2003.
- 11 MR. GATES: The 22nd of May. The last week
- 12 of May is when the evaluation board is going to meet.
- 13 And if everything goes right we will be awarding by
- 14 the 30th of June 2003.
- 15 At that time we will transfer the contract
- 16 to the New England District who will then issue
- 17 notice to proceed. And we hope to be breaking ground
- 18 shortly thereafter. I don't know exactly the
- 19 timeframe, but well enough so that you can have some
- 20 good construction this year.
- 21 That's about all I have to present
- 22 formally. So at this point, does anybody on the

- 1 panel have anything they want to bring up or
- 2 clarify that I misspoke or didn't state?
- 3 Okay. I will turn the floor over to you
- 4 guys. Whatever you want to bring up. Please state
- 5 your name and your company name.
- 6 One other thing before we go on. As far as
- 7 a site visit, we are not intending to have a formal
- 8 site visit. We can give directions to it
- 9 after this meeting. It is just a half-wooded site
- 10 out there next to the -- what is that place called?
- 11 MAJOR HALLMAN: Fun World.
- 12 MR. GATES: Next to Fun World out there on
- 13 Route 108. You are welcome to drive up to it. If
- 14 you have any questions or things like that, we will
- 15 be glad to entertain those. Just call the point of
- 16 contact in the bid instructions.
- 17 MR. MCLAUGHLIN: I am Mark McLaughlin from
- 18 Harvey Construction. When we do the building, the
- 19 performance bond, once the building is complete, is
- 20 the performance bond going to be terminated at that
- 21 point?
- We are not going to be holding onto the
- 23 performance bond until, you know, 5-1/2 or 6 years is
- 24 done? I mean, typically when you are done with a

- 1 building shortly thereafter the performance bond
- 2 comes to a point where you end it.
- 3 And the other issue is retainages on the
- 4 building. Typically you are holding a retainage on
- 5 the payments every payment period. Again, when the
- 6 building is complete we would anticipate you pay
- 7 everyone their retainer fee and then go into the
- 8 maintenance contract?
- 9 MR. CONWAY: This is Jim Conway. I will
- 10 try this one. I would say first on the retainage, if
- 11 the building is complete, physically complete, a
- 12 hundred percent complete, no punch list,
- in my opinion there would be no reason to maintain
- 14 retainage.
- MR. MCLAUGHLIN: Okay.
- MR. CONWAY: As far as the bond, I don't
- 17 have a complete answer for you right now. We would
- 18 have to get that to you. SEE AMENDMENT 0003
- 19 I know that as we go through construction
- 20 we generally get questionnaires by the bonding
- 21 companies. We would fill them out based on the
- 22 performance of the contract. So certainly the
- 23 bonding company would know that if you are 80 percent
- 24 complete, you are 80 percent complete and how much

- 1 you are were paid to date.
- 2 As far as the actual releasing of the bond,
- 3 I don't know the answer to that. That is something
- 4 we will have to get to you.
- 5 MR. BRISSETTE: Jeff Brissette, SUR
- 6 Construction. The retainage. The site work is going
- 7 to be one of the largest subcontractors on the job.
- 8 Is there going to be any partial releases of
- 9 retainage when we are substantially complete?
- 10 In theory we could have 80 percent of our
- 11 work done or as much as 90 percent of our work done
- 12 the first year.
- 13 MR. CONWAY: Typically it's been the policy
- 14 of the district that once retainage is held to hold
- onto it until the end of the job. I'll leave it at
- 16 that.
- 17 MR. BRISSETTE: Okay.
- 18 MR. MCLAUGHLIN: Mark McLaughlin again from
- 19 Harvey Construction. In the maintenance amendment on
- 20 Page 4, you talk about, you want us to do like
- 21 architectural, as part of the maintenance you want us
- 22 to do a fixed price dealing with accidental damage
- 23 and damage to paint surfaces and damaged floor tiles.
- 24 Again, on site work, you want us to repair

- 1 pavement as if a truck or something went over an
- 2 edge of it and broke a pavement. How do you put a
- 3 number on accidental damage? Maintenance is one
- 4 thing, but accidental damage? How do you quantify
- 5 that?
- 6 MR. GATES: We have the same question on
- 7 how do we quantify it. We were
- 8 wrestling with this and we were trying to come up
- 9 with some type of figure.
- 10 Early on we were talking about making that
- 11 a reimbursable expense, but there was no way to have
- 12 that money retained for that period of time where we
- 13 could draw upon it for a modification.
- 14 So then we went full circle and we had our
- 15 Reserve customer, our primary customer in Washington
- 16 directing us to include those work items
- 17 outlined in the specification
- 18 addressed in a fixed price scenario.
- 19 So I don't have a good answer for you. We
- 20 had to consult facility managers and
- 21 companies that do this for a living and tell them
- 22 the nature of this building for them to advise us on what
- 23 one may want to consider as what's

- 1 reasonable? That's all I
- 2 can say about that. Not a very good answer, I
- 3 realize.
- 4 MR. WOLFE: Peter Wolfe, DTC. Were any of
- 5 those building companies dealing with reserve type of
- 6 buildings?
- 7 MR. GATES: They were GSA buildings.
- 8 LIEUTENANT COLONEL STEPHENS: I quess this
- 9 gets into one of the things Joe said early on, know
- 10 who the tenants are going to be.
- To give you an example, this is one of the
- 12 units that is going to be in the new building. Big
- 13 equipment. The other primary unit is coming out of
- 14 Rochester. They are a construction unit.
- So you know what your construction crews
- 16 are like with their equipment? That is the equipment
- 17 we have, bulldozers, the works. Those are the two
- 18 primary occupants once this building is done. Okay?
- 19 If that helps in any way, good.
- 20 SPEAKER: Do you do a lot of repair here in
- 21 the Rochester area?
- 22 LIEUTENANT COLONEL STEPHENS: We have a
- 23 minor building here now. It's all considered
- 24 organizational maintenance that they do. Everything

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1 that is big equipment gets hauled I think right
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- 2 now to Londonderry, New Hampshire for big changes/repairs.
- 3 In other words, we are not going to rip the
- 4 transmission out and do all kinds of things like
- 5 that. But we are going to do all the oil changes,
- 6 things like that. We also have -- Mr. Chabot?
- 7 MR. CHABOT: Yes, sir?
- 8 LIEUTENANT COLONEL STEPHENS: Could you
- 9 explain the type of maintenance that your unit does
- 10 and then maybe we can get comments?
- 11 MR. SHAVET: The type of units that are
- 12 going to be in the building?
- 13 LIEUTENANT COLONEL STEPHENS: Right.
- MR. CHABOT: We are a 97th quarter master
- 15 petroleum supply unit. We provide fuel to the force
- 16 wherever it's needed, any kind of fuel.
- We won't -- we don't fuel on site, but we
- 18 have a lot of heavy equipment needed in moving the
- 19 stuff around; you know, the 10-K-4 trucks, the Atlas
- 20 trucks, 18 wheelers, tankers, that kind of equipment.
- 21 And we are pretty much on the move. We
- 22 always pack up and we're ready to go. So there is a
- 23 lot of activities in and out of the building.
- 24 LIEUTENANT COLONEL STEPHENS: Any special

- 1 maintenance that you pull on your equipment gear?
- 2 MR. CHABOT: Well, it's operator level
- 3 maintenance. It's the same as any truck, any
- 4 trucking facility that will work on tractor-trailers.
- 5 We have mechanics who are heavy equipment
- 6 repairers. We have light equipment repairers. And
- 7 we also have chemical equipment repairers.
- 8 Specifically, if you would like, I could get a
- 9 maintenance sergeant in here.
- 10 SPEAKER: Well, I guess the point of my
- 11 question is, how much, how much damage do you find
- 12 happens to the facility in terms of broken pavement
- or broken doors, broken windows?
- MR. CHABOT: No broken doors, no broken
- 15 windows. Occasionally an inexperienced driver will
- 16 drive over a bush that shouldn't be there in the
- 17 first place.
- 18 Occasionally they misuse a piece of
- 19 equipment in the middle of the yard and dig up the
- 20 pavement somehow, that kind of thing, occasionally.
- 21 You are welcome to look out at this
- 22 facility where we are. The pavement is still pretty
- 23 good. It's about 6 years old. We don't run into
- 24 buildings. We don't break the doors.

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1 SPEAKER: And what if a snow-plow damages
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- 2 the pavement? Is it going to be the snow-plow
- 3 contractor's liability and not ours?
- 4 MAJOR HALLMAN: It should be.
- 5 LIEUTENANT COLONEL STEPHENS: Jeff, do you
- 6 have any comments about your units?
- 7 MR. LANGLEY: Jeff Langley. We have a
- 8 tendency, our cranes have a tendency, our cranes
- 9 break light fixtures. Light fixtures strike the
- 10 crane, if they are too high, not high enough. Doors,
- 11 we tend to break those quite often.
- 12 LIEUTENANT COLONEL STEPHENS: Jeff is with
- 13 the engineering company.
- 14 MR. LANGLEY: The bulldozer is terrible on
- 15 pavement.
- MR. CHABOT: Are they still looking at a
- 17 hard surface?
- 18 MR. GATES: The question is, he was talking
- 19 about dozers and pavement. Are we still going to
- 20 have a hard surface where they are going to have the
- 21 dozers?
- MR. LANGLEY: Yes. Where they are parked
- 23 there will be concrete, a concrete pad from there to
- 24 the work place. So they should not be driven on the

- 1 asphalt.
- 2 MR. GATES: Thank you.
- MR. WOLFE: Pete Wolfe, DTC. For the O&M
- 4 section, how are you going to determine substantially
- 5 complete? Is that going to be something you can
- 6 bill out on a regular basis?
- 7 MR. CONWAY: Substantially complete for the
- 8 O&M?
- 9 MR. WOLFE: I mean the maintenance portion
- 10 of the five-year run. After completion of the
- 11 project, how do we bill?
- 12 MR. CONWAY: I would think that we would do
- 13 the same thing as during the construction as far as
- 14 coming to an agreement on the schedule of values and
- 15 then making periodic payments throughout the life of
- 16 the O&M.
- 17 MR. CARON: Art Caron, Fluor, F-l-u-o-r.
- 18 In terms of the qualifications of the O&M part of the
- 19 award, does that need to be an O&M proven contractor
- 20 or can they be bits and pieces plucked from some
- 21 contractors to supplement the prime contractor's work
- 22 force?
- MR. GATES: I don't think we would spell
- 24 out which we way you are to proceed. I think we

- 1 leave the door open to you on how you think it is
- 2 best whether you make use of subcontracts that you
- 3 use during construction or if you hire facility
- 4 maintenance.
- 5 MR. DICKERT: Tom Dickert. The proposal asks
- 6 for a narrative describing your approach to
- 7 meeting the need and having the work done on the O&M
- 8 portion. So we are going to look at the
- 9 reasonableness of your approach, essentially.
- We are not trying to define how many people
- 11 you use for what functions or even whether it is with
- 12 your own forces or subcontractors.
- MR. CARON: Is there a minimum
- 14 qualification that needs to be made in order to be
- 15 deemed technically competent before the price is
- 16 evaluated?
- 17 MR. DICKERT: It has to be -- whoever is
- 18 provided needs to meet the requirements of the O&M
- 19 spec, the duties and the knowledge that would be
- 20 necessary to do those things.
- 21 And we are asking you, not so
- 22 much for a resume, but an example of the level of quality
- 23 person or persons you might have working on it.
- 24 Since it's 2 years out (after construction) you might not

- 1 be able to get, to line that up right now. We are
- 2 going to look at you providing us the quality, the
- 3 background, you know, the training you might require
- 4 for somebody to do that part of the work, put that on
- 5 paper for us in the form of a narrative.
- 6 We will look at it. And then we will hold
- 7 you to it once the contract is awarded. If you tell
- 8 us you will have this person who has this background and
- 9 he is going to be able to do this and whatever, then
- 10 that is what we will expect to see whenever it comes
- 11 time to actually do the work.
- 12 MR. CARON: One last question. With regard
- 13 to the 15 percent threshold for the self-performance,
- 14 you have excluded the O&M as being applicable to -- I
- 15 assume it's 15 percent of the dollar value?
- MR. DICKERT: No, it's the labor.
- MR. CARON: Is that man hours?
- MR. DICKERT: Section 00800, Paragraph 1.16
- 19 describes what is excluded from that percentage.
- 20 Work by the Contractor is defined as prime contractor direct
- 21 contract labor. Equipment and field
- 21 overhead personnel, materials, and equipment are excluded when
- 22 arriving at that percentage. It is not the entire dollar

- 1 value of the construction part of it that you are using to
- 2 figure the percentage. It's the part that is
- 3 applicable to labor. A proportion of it is labor
- 4 and 15 percent of that portion needs to be with your
- 5 forces.
- 6 MR CARON: And those forces need to
- 7 self-perform something as specifications would
- 8 indicate between site work and electrical division 2
- 9 through 15.
- 10 MR. DICKERT: Yes.
- MR. GATES: Anybody else?
- MR. DAVIES: Rick Davies with Eckman
- 13 Construction. I just wanted to verify the point of
- 14 submittal of the proposal and if there is any
- 15 electronic submission that is applicable to the
- 16 project?
- 17 MR. DICKERT: No, there is not, nothing
- 18 electronic. I have to physically get the proposals.
- 19 My address and room number
- 20 is in the solicitation. I am the sole recipient
- 21 of the proposals and we don't accept anything
- 22 by e-mail.
- I have to have the hard copy of the

- 1 proposals in my hand by the 22nd of May at 4:00
- 2 Louisville time.
- 3 MR. BRISSETTE: Jeff Brissette, SUR
- 4 Construction. What will this department provide the
- 5 site contractor for lay out information, engineering
- 6 data to be able to do our layout?
- 7 MR. HALL: Howard Hall, Louisville
- 8 District. All that information will be on the set of
- 9 drawings on the disc (CD) that you get.
- 10 MR. BRISSETTE: You will get a CADD
- 11 file with plans? You are giving us the CADD
- 12 file?
- MR. HALL: Yes.
- MR. DICKERT: It's on the CD. It is also
- 15 on the Web, but it may be difficult to down load drawings from
- 16 the Web site.
- 17 MR. BRISSETTE: To follow up that
- 18 question, will anybody that you guys hire give us
- 19 original control, or will be expected to take this
- 20 CADD file and just go out there and lay this thing
- 21 out? I mean, there has to be some original control
- 22 points set out.
- MR. HALL: Howard Hall, Louisville
- 24 District. There are control points on the drawings.

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1 MR. BRISSETTE: And in the CADD file?
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- 2 MR. HALL: Yes.
- 3 MR. BRISSETTE: So we are going to be
- 4 expected to take that information and do all the
- 5 layouts.
- 6 MR. HALL: Yes.
- 7 MR. MCLAUGHLIN: Mark McLaughlin from
- 8 Harvey Construction again. Are there any permits
- 9 that are required before the project can start? SEE AMENDMENT 0003
- 10 MR. GATES: I am going to have to get back
- 11 to you on a complete list. There were at least two
- 12 Department of Highway permits and the Erosion Control
- 13 permit. We have taken initial action to get those
- 14 filed and in place. I don't know where they stand,
- 15 but I will get that information to you in the amendment.
- Do you have anything else?
- 17 MR. BRISSETTE: Jeff Brissette, SUR
- 18 Construction. Will contact names and phone numbers
- 19 be given so if we have questions after this meeting
- 20 we will be able to speak to you people?
- 21 MR. DICKERT: They will be part of the
- 22 meeting minutes, which will be part of the amendment.
- MR. BRISSETTE: Thank you.
- 24 MR. MCLAUGHLIN: Mark McLaughlin from

- 1 Harvard Construction again. Will the sign-up sheet
- 2 be part of the amendment? SEE ATTACHED SIGN-IN SHEETS
- 3 MR. GATES: Yes.
- 4 MR. DICKERT: The information on there --
- 5 yes. The names are going to be part of the
- 6 amendment.
- 7 MR. DELLA ROCCA: Vincent Della Rocca, DTC.
- 8 When is the last day for RFI's?
- 9 MR. GATES: During the bidding period?
- 10 MR. DELLA ROCCA: Correct. All the way to
- 11 closing?
- MR. DICKERT: No, we have to have a
- 13 reasonable time to be able to respond to a question.
- 14 I mean, you can't give it to us on the 21st and
- 15 expect an answer. You may not get it.
- MR. DELLA ROCCA: Can we establish a
- 17 cut-off date?
- 18 MR. DICKERT: I guess it would depend on
- 19 the question. They should come to me. There is a
- 20 question form in the solicitation. I can also
- 21 be e-mailed. My E-mail address is on that
- 22 form.
- The questions will come to me in
- 24 contracting and I will get them to the persons or the

- 1 person that needs to get an answer. If it's a
- 2 technical question of some sort, then certainly I
- 3 will be getting it out to an engineer, or whoever
- 4 would know the answer.
- 5 It comes back to me and I am going to get
- 6 it back to you either directly or by amendment.
- 7 You want a cut-off date?
- 8 MR. DELLA ROCCA: Yes. You are suggesting
- 9 you are going to give an answer back directly to the
- 10 contractor for a specific question, not everybody?
- 11 MR. DICKERT: If the answer changes the plans &
- 12 specs then we would have to issue an amendment.
- 13 If it's a clarification, no amendment.
- MR. DELLA ROCCA: Your intention is not to
- 15 publish unless it affects the plans and specs?
- MR. DICKERT: Excuse me?
- 17 MR. DELLA ROCCA: Your intention is not to
- 18 publish the questions and answers unless it affects
- 19 the plans and specs?
- MR. DICKERT: Yes, but I can answer questions
- 21 directly for clarification.
- 22 MR. DELLA ROCCA: But publishing them for
- 23 everyone as opposed to getting back to the
- 24 individual?

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1 MR. DICKERT: It would have to be done by
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- 2 amendment if it affects the plans and specifications.
- 3 MR. WOLFE: Let me clarify something.
- 4 Peter Wolfe.
- 5 MR. GATES: We'll take RFI's all the way up
- 6 to the end period. If there is an amendment that is
- 7 a result from an RFI, we will issue the amendment to
- 8 everybody, but not the RFI. They won't see who
- 9 submitted the RFI.
- 10 But if there is -- if we get an RFI up to
- 11 the last minute and we can respond back to the
- 12 individual asking the question, we will. If we get
- 13 an RFI that we cannot respond back within that period
- 14 before the bid opening, and it doesn't impact price
- 15 or schedules or quality or whatever, we may make a
- 16 decision that we may not be able to get back to you
- 17 and just bid it as you see it.
- I don't know exactly how to wrap this
- 19 meeting up other than saying it's over. Is there
- 20 anymore questions? We are willing to stay here as
- 21 long as you need us.
- 22 Linda Hallman will give directions to the site. Do
- 23 you have the maps handy? Once again you are invited
- 24 to go out at your leisure to the site and look

- 1 around. If you have questions on what you see based
- 2 on whatever, based on plans or specs related to your
- 3 site visit, they should be funneled back to Tom
- 4 Dickert. His point of contact and address is in what
- 5 section? (Section 00100 and the web-site)
- 6 MAJOR HALLMAN: How many people want a copy
- 7 of the map?
- 8 MR. GATES: Where can they find your point
- 9 of contact?
- 10 MR. DICKERT: It's on the Web site. It's
- 11 also in the solicitation, Section 00100.
- 12 MR. GATES: Section 00100 or on the Web site.
- MR. WOLFE: Pete Wolfe, DTC. On the Omar
- 15 funded equipment, will you allow access to GSA
- 16 schedules through the Corps?
- 17 MR. GATES: I know what you are saying. I
- 18 am trying to think how we do that. I need to get
- 19 back to you on that. It's probably not a big deal.
- 20 It's probably a good idea to do that. SEE AMENDMENT 0003
- 21 Anybody else? That concludes our meeting.
- 22 I appreciate everybody coming here and expressing a
- 23 willingness to at least look at the job and possibly
- 24 bid the job. Thanks again.

- 1 (Whereupon, at 2:35 o'clock, PM, Tuesday,
- 2 April 29, 2003, the meeting came to an end.)



PROJECT: Rochester, NH USARC

PURPOSE: Pre-Proposal Meeting

DATE: 29-Apr-03

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DIVISION 08 - DOORS & WINDOWS

SECTION 08950

INSULATED TRANSLUCENT FIBERGLASS SANDWICH PANEL WALL/ROOF SYSTEM

03/03

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SECTION 08950

INSULATED TRANSLUCENT FIBERGLASS SANDWICH PANEL WALL/ROOF SYSTEM 03/03

PART 1 GENERAL

1.1 REFERENCES

AMERICAN ARCHITECTURAL MANUFACTURES ASSOCIATION (AAMA)

	AMERICAN	ARCHITECTURAL	MANUFACTURES ASSOCIATION (AAMA)
AAMA 1	503		(1998) Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections
AAMA 2	2604		(1998) Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels
	AMERICAN	SOCIETY FOR T	ESTING AND MATERIALS (ASTM)
ASTM (2 1363		(1997) Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus
ASTM C	297		(1994; R 1999) Test Method for Tensile Strength of Flat Sandwich Constructions in Flatwise Plane
ASTM C	C 1199		(2000) Test Method for Measuring the Steady State Thermal Transmittance of

ASTM D 635	(1998) Test Method for Rate of Burning
	and/or Extent and Time of Burning of
	Self-Supporting Plastics in a Horizontal

Position

ASTM D 1002 (2001) Test Method for Apparent Shear
Strength of Single-Lap-Joint Adhesively
Bonded Metal Specimens by Tension Loading

(Metal-To-Metal)

ASTM D 1037 (1999) Test Methods for Evaluating

Properties ofWoodOBase Fiber and Particle

Fenestration Systems Using Hot Box Methods

Panel Materials

ASTM D 2244	(1993; R 2000) Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates
ASTM E 72	(1998) Test Methods of Conducting Strength Tests of Panels for Building Construction
ASTM E 84	(2001) Test Method for Surface Burning Characteristics of Building Materials
ASTM E 108	(2000) Test Method for Fire Tests of Roof Coverings
ASTM E 331	(2000) Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
ASTM E 972	(1996; R 2002) Test Method for Solar Photometric Transmittance of Sheet Materials Using Sunlight
ASTM E 1423	(1999) Practice for Determining the Steady State Thermal Transmittance of Fenestration Systems

UNDERWRITERS LABORATORIES (UL)

UL 723 (1996) Surface Burning Characteristics of Building Materials

UL 972 Burglary Resisting Glazing Material

NATIONAL FENESTRATION RATING COUNCIL (NFRC)

NFRC 100 Procedure for Determinign Fenestration Product U-Factors

1.2 SYSTEM DESCRIPTION

- A. Section includes translucent fiberglass sandwich panel system for walls or skylights consisting of 70mm (2-3/4") thick flat (or curved) factory prefabricated into single units, (including factory installation).
- B. Related sections include the following:
 - 1. Structural steel: Section 05120
 - 3. Roofing: Section 07412
 - 4. Metal counter flashing: Section 07600
 - 5. Glass and glazing: Section 08810
 - 6. Masonry: Section 04200
 - 7. Joint sealants: Section 07900

C. Requests for substitutions must be approved in writing or by addendum no later than 10 days prior to bid date and in keeping with Division 1 of the specifications.

1.3 PERFORMANCE REQUIREMENTS

A. Deflection of entire system shall be no more than L/45, unless otherwise indicated.

B Structural Loads: Provide system capable of handling the following loads when supporting full dead load:

1. Wind Load: 1.5 kPa (30 psf)

2. Snow Load: 3 kPa (60 psf)

3. Roof Load: 3 kPa (60 psf)

4. Negative Load: 2 kPa (40 psf)

5. Seismic Load: V=0.09W

C. Air/Water Infiltration: For Water Penetration, curtainwall system shall be tested per procedures of ASTM E 331, and shall show no water entry at WTP=10.00 psf, @ 5.00 gph/ft. squared. Test shall be performed before and after uniform loads are applied. For Air Leakage, system shall be tested per procedures of ASTM E 1363, and shall show results of no more than 0.01 cfm/ft. squared @ 1.56 psf (25 mph) and 0.01 cfm/ft. squared @ 6.24 psf (50 mph).

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are 'For Information Only'. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Face Sheets and Finishes; G, ED

Submit shop drawings of face sheets and finishes.

SD-03 Product Data

Insulated Translucent Fiberglass Sandwich Panel System; G, ED

Manufacturer's descriptive data, performance charts, and catalog cuts.

Acceptable Manufacturer Products

Manufacturers products listed in this specification are referenced to establish a standard of quality. When the specific product listed is submitted by the Contractor, that submittal will be considered For Information Only. When an equal to that named in

this specification is submitted, it shall be for Government Approval (g). The following manufacturer products are specifically mentioned in this specification:

Insulated translucent fiberglass sandwich panel wall/roof system

A. Kalwall Corporation 111 Candia Road P.O. Box 237 Manchester, NH 03105 Phone: 603-627-3861 Fax: 603-627-7905 www.Kalwall.com

B. Structures Unlimited, Inc. P.O. Box 5650 Manchester, NH 03108 (800) 225-3895 www.skylightinfo.com

C. Skywall Translucent Systems 803 Airport Road P.O. box 629 Terrell, TX 75160 Phone: 972-551-6470 Fax: 972-551-6129 www.Skywall.com

Manufacturer product submitted as an "or equal"; G, ED

SD-04 Samples

Color Samples of Face Sheets and Finishes; G, ED

Submit color samples of face sheets and finishes according to Division 1.

Product Sample; G, ED

Submit product sample showing thickness, face sheets, colors and insulation 350mm x 700mm (14" x 28").

SD-05 Design Data

Energy and Structural Calculations;

All above data must be submitted with any request to be included as an approved product to bid this section.

SD-06 Test Reports

Flame Spread and Smoke Developed (ASTM E 84 by UL 723);

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Burn Extent (ASTM D 635);

Color Difference (ASTM D 2244;);

Impact Strength (UL 972);

Tensile Bond Strength (ASTM C 297 after aging by ASTM D 1037);

Shear Bond Strength (ASTM D 1002) after 5 different aging conditions;

Beam Bending Strength (ASTM E 72);

Insulation "U" Factor (by NFRC 100; ASTM C 1363; ASTM E-1423 and ASTM C 1199);

NFRC Certification

Condensation Resistance Factor (AAMA 1503);

Class A Roof Covering Burning Brand (ASTM E 108);

Class A Roof System UL Listed (UL 790)- Optional;

*3
```

Test Reports to be furnished by systems manufacturer in accordance with Division.1, Submittals. The manufacturer shall submit certified test reports by an independent testing organization for each type and class of panel system. Reports shall verify that the material will meet all performance requirements of this specification. Previously completed test reports will be acceptable if by current manufacturer and indicative of products used on this project.

SD-13 Records

Quality Control Monitoring;

Proof of regular, independent quality control monitoring under a nationally recognized building code review and listing program shall be submitted.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Erection shall be by an installer which has been in the business of erecting and installing specified materials for at least five (5) consecutive years, and can show evidence of satisfactory completion of projects of similar size, scope and type.
- B. Shop drawings to be reviewed and stamped by a registered engineer if required.

- C. System manufacturer must be listed by a recognized building code authority, including the International Conference of Building Officials, which requires quality control inspections, and fire, structural and water infiltration testing by an approved agency for sandwich panel systems.
- D. Quality control inspections; and required testing conducted at least once each year, shall include manufacturing facilities, sandwich panel components and production sandwich panels for conformance with "Acceptance Criteria for Sandwich Panels" as regulated by the ICBO-ES or equivalent.
- E. Materials and products shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least ten (10) consecutive years and which can show evidence of these materials being satisfactorily used on at least six (6) projects of similar size, scope and type within such a period. At least three (3) projects shall have been in successful use for ten (10) years or longer.
- F. Performance Requirement: The manufacturer shall be responsible for the configuration and fabrication of the complete panel system.
- G. Product Options: Drawings indicated size, dimensions and profile to structural translucent panel system. Specifications indicate performance required. Other manufacturers that can meet portions of this specification and wish to be considered alternates must comply with Division. 1, Substitutions and Alternates, and can offer alternate bids for consideration using those guidelines.

1.6 PROJECT CONDITIONS

Field Measurements: Verify dimensions in system installation areas and indicate if dimensions on shop drawings are actual or guaranteed dimensions.

1.7 WARRANTY

- A. General Warranty: Any warranties specified in this section shall not alter or change Owners rights and provisions received under other contract documents, and shall be in addition to those documents.
- B. Special Warranty: System manufacturer shall provide written agreement to repair or replace all defective panel and system craftsmanship for a period of one (1) year, starting at date of delivery. Installer shall provide one (1) year warranty against leakage starting from date of installation completion.

1.8 PRODUCT HANDLING

Store panels on long edge, several inches above the ground, blocked and under cover to prevent damage. Follow manufacturer's storage and handling instructions.

PART 2 PRODUCTS

2.1 MATERIALS -- TRANSLUCENT FACE SHEETS -- PANEL FABRICATION

A. Translucent fiberglass faces shall be manufactured from glass fiber reinforced thermoset resins by insulated system fabricator especially for architectural use. Thermoplastic (e.g. polycarbonate, acrylic) faces are not acceptable.

*3

- B. FLAMMABILITY: The interior face sheet shall be UL listed and have a flamespread rating no greater than 200 and smoke developed no greater than 450 when tested in accordance with UL 723. The Translucent exterior canopies do not require a Flamespread or a Smoke Development Rating. *3
- C. WEATHERABILITY: The full thickness of the exterior face shall not change color more than 3.0 Hunter or CIE Units DELTA E by ASTM D 2244 after five (5) years outdoor South Florida weathering at 5 degrees facing South, determined by the average of at least three (3) white samples with and without a protective film or coating to ensure maximum, long-term color stability. (Seven (7) Units for Class A Roof System, after 30 months exposure.)
- D. The exterior face shall have a permanent glass erosion barrier integrally embedded to provide maximum long-term resistance to fiber exposure. Sacrificial plastic surface films, coatings or veils not acceptable.
- E. Exterior face sheet shall be smooth, 1.8mm (.070") thick and Crystal in color. Interior face sheet shall be 1.14mm (.045") thick and Crystal in color. Faces shall not vary more than +/- 10% in thickness, and be uniform in color.
- F. Panel system shall be 70mm (2-3/4") thick, made of two (2) sheets of translucent fiberglass, bonded by heat and pressure to either an aluminum or composite grid core specifically for architectural use.
- G. THERMAL INSULATION: Panels shall have a NFRC laboratory tested "U" factor of .18 by ASTM C 1363, ASTM E 1423 and ASTM C 1199. System shall be NFRC certified.
- H. LIGHT & SOLAR TRANSMISSION: Panels shall have a light transmission of 20 percent per ASTM E 972.

I. GRID CORES:

- 1. Grid pattern shall be nominal $300 \, \text{mm} \times 600 \, \text{mm} = (12 \, \text{m} \times 24 \, \text{m})$ shoji and symmetrical about the horizontal center line for each flat panel.
- 2. The thermally broken (aluminum) I-beam grid core shall be 6063 T6 or 6005 T5 with provisions for mechanical interlocking of muntin-mullion and perimeter. Width of I-beam shall be no less than 7/16". The I-beam grid shall be machined to tolerances of not greater than +/- .002". Thermal break shall be 1" minimum.
- 3. Panels shall withstand 1200 degrees F fire for minimum (1) hour without collapse or exterior flaming.

4. Thermally broken panels shall give minimum CRF (Condensed Resistance Factor) of 80 by AAMA 1503 measured on the grid line.

J. ADHESIVE:

- 1. The laminate adhesive shall be heat and pressure resin-type engineered for structural sandwich panel use, with minimum 25 years field use. Adhesive shall pass testing requirements specified by the International Conference of Building Officials "Acceptance Criteria for Sandwich Panel Adhesive."
- 2. Minimum strength shall be 750 PSI tensile strength by ASTM C 297 after two (2) exposures to six (6) cycles each of the aging conditions prescribed by ASTM D 1037.
- 3. Shear strength by ASTM D 1002 minimum after exposures to five (5) separate aging conditions:
 - a) 50% Relative Humidity at 73 degrees F: 540 PSI
 - b) 182 degrees F: 100 PSI
 - c) Accelerated Aging by ASTM D 1037 at room temperature: 800 PSI
 - d) Accelerated Aging by ASTM D 1037 at 182 degrees F: 250 PSI
 - e) 500-hour Oxygen Bomb by ASTM D 572: 1400 PSI

K. IMPACT RESISTANCE:

The exterior face sheet shall be uniform in strength, impenetrable by hand-held pencil and repel an impact equal to 60 ft. lbs. without fracture or tear when impacted by 3-1/4" diameter, 5 lb. free-falling ball per UL 972.

- L. Translucent structural sandwich panel shall be a true sandwich panel of flat fiberglass sheets bonded to a grid core of mechanically interlocking I-beams and shall be laminated under a controlled process of heat and pressure, and deflect no more than 1.9" at 30 psf in 10' by ASTM E 72.
- M. The adhesive bonding line shall be straight, cover the entire width of the I-beam, and have a neat, sharp edge. In order to insure bonding strength, white spots at intersections of mutins and mullions shall not exceed 4 for each 40 sq. ft. of panel, nor shall they be more than 3/36" in width.
- N. Panels and aluminum perimeter frame shall be pre-assembled where practical and sealed at the factory. Panels should be shipped to the job site in rugged shipping units, ready for erection.
- O. PERIMETER CLOSURE SYSTEM, BATTENS AND ALUMINUM FINISHES:
- 1. Closure system shall be extruded 6063-T6 and 6063-T5 aluminum clamp-tite screw type. Curved closure system may be roll formed. Thermal break system for walls.
- 2. Aluminum closures to be supplied with 300 series stainless steel screws (excluding final fasteners to building) and shall be factory sealed

to the panels. Aluminum battens and cap plates shall be field installed.

- 3. All exposed aluminum to be architectural corrosion resistant finish which meets the performance requirements of AAMA 2604, color to match Kalwall Bronze #84.
- 4. Flexible sealing tape shall be manufacturer's standard pre-applied to serrated edges of closure system at factory under controlled conditions.
- 5. Color, texture and pattern shall be in accordance with SECTION 09915 Color Schedule

PART 3 EXECUTION

3.1 EXAMINATION

Do not install systems until conditions adversely affecting installation and performance have been corrected.

3.2 PREPARATION

The general contractor shall prepare openings including isolating dissimilar materials from aluminum system which may cause damage by electrolysis, and shall provide temporary enclosures if required.

3.3 INSTALLATION:

- A. The installer shall erect translucent panel system in strict accordance with approved shop drawings as supplied by manufacturer, including fastening and sealing. All surfaces shall be cleaned before sealants are applied.
- B. Secure non-moveable joints and accommodate thermal and mechanical movements
- C. If required, insure weep holes are correctly installed.
- D. After other trades have completed work on adjacent material, inspect translucent panel installation and make any adjustments necessary to ensure proper installation and weather-tight conditions.
- E. All staging and lifts required for the complete panel system installation and field measuring shall be provided by and maintained by the general contractor.

3.4 CLEANING

Clean panel system, both sides, after installation according to manufacturer's recommendations.

-- End of Section --